

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE. Assistant Editor: HERBERT C. HUNTER.

VOL. XXXV.

JULY, 1907.

No. 7.

The MONTHLY WEATHER REVIEW is based on data from about 3500 land stations and many ocean reports from vessels taking the international simultaneous observation at Greenwich noon.

Special acknowledgment is made of the data furnished by the kindness of cooperative observers, and by R. F. Stupart, Esq., Director of the Meteorological Service of the Dominion of Canada; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Capt. I. S. Kimball, General Superintendent of the United States Life-Saving Service; Commandant Francisco S. Chaves, Director of the Meteorological Service of the Azores, Ponta Delgada, St. Michaels, Azores; W. N. Shaw, Esq., Director Meteorological Office, London; Maxwell Hall, Esq., Government Meteorologist, Kingston, Jamaica; Rev. L. Gangoiti, Director of the Meteorological Observatory of Belen College, Havana, Cuba.

As far as practicable the time of the seventy-fifth meridian is used in the text of the MONTHLY WEATHER REVIEW.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

FORECASTS AND WARNINGS.

By Prof. ALFRED J. HENRY, temporarily in charge of Forecast Division.

IN GENERAL.

Barometric pressure over the British Isles was low during the first and third decades of the month and high during the second decade. The weather, on the whole, was cool and rainy, except during the anticyclonic condition which prevailed from the 11th to the 20th. Over the Atlantic in the vicinity of the Azores pressure was uniformly high from the 1st to the 13th, and again from the 16th to the 20th. The last-named period was one of high pressure over the whole of western Europe, including Iceland, and from the Azores westward to the United States. On the 17th a rise of pressure occurred simultaneously over the Azores, Bermuda, the West Indies, and the eastern portion of the United States, the rise amounting to as much as a tenth of an inch at two of the West Indian stations. This great high maintained itself only about two days; on the 18th it was separated into several portions by an area of falling pressure that advanced from the westward.

In the United States the movement of highs and lows, of which there was about the usual number, was uniformly along the northern boundary, as may be seen by reference to Charts Nos. II and III. As a result, the lower layers of the air did not become unduly heated for periods of more than a day or two at a time, and no unusually high maxima were registered, except in Washington and Oregon, during the closing days of the month. In connection with the high temperatures experienced on the Pacific coast, a case of sunstroke was reported at Bellingham on the 31st.

During the eastward movement of high pressure area No. I unusually low temperatures were recorded in the Lake region, the Ohio Valley, and the Middle Atlantic States. Light frost was reported in southeastern Michigan and northern Ohio on the morning of the 3d; no general damage was done, altho potato vines were killed in localities.

The rainfall was about normal, except in Texas and the Southwest, New England, and New York, where more or less droughty conditions prevailed.

Severe local storms occurred on a number of dates and in various localities. In Wisconsin a series of small tornadoes swept over the counties of Jackson, Monroe, Wood, and Fond du Lac on the night of the 3d. Twenty-six people were reported killed, about twenty were injured, and the damage to property was estimated at \$100,000. A small tornado also struck Williston, N. Dak., on the 20th and demolished a num-

ber of dwellings, one person being killed in the wreckage. A tornado occurred near Mount Vernon, S. Dak., on the 13th; one life was lost. Severe thunderstorms, attended by high winds and torrential rains, were the cause of much damage to growing crops in various localities. Bridges were washed away, telegraph and telephone lines were prostrated, and the movement of trains was interrupted by the severity of the elements. Some of the most severe storms occurred on the following dates: 3d, 4th, and 5th, in Wisconsin and adjoining territory; 5th, in Ohio; 9th, in the Ohio Valley, especially at Louisville, Ky.; 10th, in Iowa, Illinois, and Indiana, two persons being killed in Indiana; 14th, heavy rains in northeastern Kansas and southeastern Nebraska occasioned an estimated loss of half a million dollars; 18th, heavy rains and severe electric storms occurred thruout West Virginia and portions of Maryland, being particularly severe at Baltimore; 21st, a severe storm in southern Wisconsin, especially at La Crosse, caused an estimated loss of \$500,000; 22d, severe electric storm at Parkersburg, W. Va.; 24th and 25th, severe electric and rainstorms in Ohio, West Virginia, and western Pennsylvania; 29th and 30th, damage by wind, hail, and lightning sustained in Vermont.

Two very destructive hailstorms were reported, the first in Mills County, Iowa, where the local newspapers estimated that the crops over 80,000 acres of land were completely destroyed, entailing a loss of about \$1,000,000. The second storm occurred in the southern portion of Brown and Spink counties, South Dakota, where it is reported 160 square miles was swept by the storm.

BOSTON FORECAST DISTRICT.

The weather of the month was marked by generally high temperatures, abundant sunshine, and severe local storms in some sections. The precipitation was normal to excessive in northwestern Maine, and the extreme northern sections of New Hampshire and Vermont, and below the average in nearly all other sections of the district. The greatest deficiencies in the monthly amounts occurred in eastern Massachusetts and in Connecticut, and ranged from 2 to over 3 inches below the July average. General rains fell on the 12th, 20th, and the 26th, but otherwise the precipitation of the month was from local showers. The temperatures ranged near the seasonal average thruout the district. The maximum temperatures were generally on the 17th or 18th, and the minimum temperatures, with a few exceptions, occurred on the 4th. July, as a whole, was a very pleasant month